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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,120	03/27/2001	Kevin K. Chan	YOR920000231US1	8952

21254 7590 06/03/2003  
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EXAMINER

ROCCHEGIANI, RENZO

ART UNIT	PAPER NUMBER
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2825

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/817,120

Applicant(s)

CHAN ET AL.

Examiner

Renzo N. Rocchegiani

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 36-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 and 14-21 is/are rejected.
- 7) ☒ Claim(s) 11, 13 and 36-44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Specification***

The applicant is hereby notified that the substitute specification has been entered and so has the amendment to the drawings been entered. The examiner withdraws the objections made with respect to the specification and drawings from the previous office action.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-17, 36, and 39-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 1 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites forming a back-gate on a substrate, forming a passivation layer on the back-gate and then forming a gluing layer on the passivation layer but that the gluing layer is between the back-gate and the substrate. "Said substrate" in line 6, refers to the first substrate which makes the claim indefinite because if the back-gate is on the substrate and the passivation is on the back-gate then the gluing layer cannot be between the back-gate and the first substrate. Please make appropriate correction. The examiner suggests amending the claim as

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follows: delete the words "over a substrate" in line 2 and replace "said" with "a" prior to the word substrate on line 6.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 7-10, 12, and 14-21 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,387,555 (Linn et al.).

Linn et al. discloses using SOI wafers (col. 2, lines 59-61) with an oxide layer deposited there on (item 506, Fig. 5a) to form a bonded wafer structure with a metal back-gate, a passivation layer on the metal back-gate and an intermediate gluing layer on the passivation layer. (col. 7, lines 5-15) The intermediate gluing layer comprises a silicon layer. (col. 7, lines 5-15). The formation of the metal back-gate comprises the deposition of W and the passivation layer is a W layer. (col. 7, lines 5-15). The W is deposited by sputtering, i.e. a PVD process. (col. 6, lines 56-59). The structure is annealed at 900 degree C. (col. 7, lines 5-15).

Because the structure is heated, it is inherent that it will undergo a temperature ramp annealing process.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 5,387,555 (Linn et al.) in view of U.S. Patent No. 6,049,114 (Maiti et al.)

As stated in paragraph 12, all the limitations of the claim have been met except for disclosing that the W may be deposited by CVD.

Maiti et al. teaches that CVD is interchangeable with PVD to deposit W. (col. 3, lines 10-15)

It would have been obvious to one having ordinary skill in the specific art to deposit W via CVD, since Maiti et al. teach that this process is interchangeable with PVD.

#### ***Allowable Subject Matter***

8. Claims 11, 13 and 36-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reasons these claims are allowable were provided in the previous office action.

#### ***Response to Arguments***

9. Applicant's arguments filed on March 4 and March 20, 2003 have been fully considered but they are not persuasive. The examiner would like to thank applicant for the corrections to the drawings and for the substitute specification, as stated above the objections with respect to these issues have been withdrawn. As for the 112 rejection, all the rejections have been withdrawn as well with the exception of claim 1 and now

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amended claim 6. The applicant argued that the language is clear and thus did not amend the claim as previously required. The examiner does not agree and has provided a suggestion for an amendment to overcome the 112. The claim as it stands is not clear and thus indefinite. The examiner is still of the opinion that claim 6 contains allowable subject matter and thus has not rejected this claim under prior art but has included this claim in the 112 rejection. As to applicant's argument regarding the prior art the examiner was not persuaded. Applicant argues that the prior art does not provide a intermediate gluing layer. First, the examiner points out that claims 18 and 19 do NOT recite the limitation of "an intermediate gluing layer". Secondly, as applicant has pointed out, the Linn et al. reference discloses in column 7 that WSi, SiON or nitrox are formed. Based on this the applicant argues that there is no gluing layer. Yet, a close reading of column 7 of Linn et al. reveals that the W also reacts with the nitrox to increase adhesion. Thus, the examiner takes that to mean that a layer comprising W and SiON bonded together is present even though it is not shown in the figures. This would be the intermediate gluing layer that anticipates the claimed limitations. Thirdly, the applicant argues that there is no motivation to combine the Linn et al. reference with Maiti et al. and Chan et al.. The examiner disagrees. Maiti et al. discloses that CVD is interchangeable with PVD in some instances and thus a worker with general skill in the art would know to use a CVD process over a PVD even if Maiti et al. is directed to forming a different device. With regards to the 103 rejection over Linn in view of Chan, after a closer reading of Linn et al. the examiner has determined that Linn et al. actually disclose the use of SOI and thus there is no need to cure such deficiency by combining

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Linn et al. with Chan et al., thus the claims that were rejected under 103 have now been grouped together with those rejected under 102 and the 103 rejection has been withdrawn. For the forgoing reasons the examiner was not persuaded by applicant's arguments and the pending claims of the present application stand rejected as presented above.


***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renzo Rocchegiani whose telephone number is (703) 308-5839. The examiner can normally be reached on Monday through Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith, can be reached at (703) 308-1323. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

RNR

May 29, 2003

  
CAPULET, JEFFREY  
PRIMARY EXAMINER